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ABSTRACT

The study ascertained through standardized tests, if a bilingual educational program had an effect on spoken English proficiency of native Spanish speakers in Las Cruces, New Mexico. The sample consisted of 34 fourth grade children enrolled in the Sustained Primary Program for Bilingual Students in the Las Cruces Public School System. The subjects were divided into 2 groups: group I was taught in both English and Spanish; group II was taught in English only. Taken from the same cultural and socioeconomic background, subjects were tested in a quiet room. The methods used to measure English speaking proficiency were the Ammons Quick Picture Vocabulary Test; 3 subtests of the Illinois Test of Psycholinguistic Ability taken from the representational level (Auditory Reception, Auditory Association, and Verbal Expression); and a nonverbal intelligence test (the Columbia Mental Maturity Scale). Mean scores were computed for all tests and groups were compared. To determine the significance of difference between scores, t tests were conducted on all tests. Findings were: (1) no significant differences were found between the 2 groups on English speaking proficiency in auditory reception, auditory association, verbal expression, and on the intelligence test; and (2) significant differences were found on the Ammons Quick Picture Vocabulary Test. English speaking proficiency was depressed for both groups when compared with norms for their chronological age. (Author/NQ)

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THE EFFECTS OF THE LAS CRUCES, NEW MEXICO, BILINGUAL PROGRAM ON SELECTED ASPECTS OF SPOKEN ENGLISH

BY

RAMONA LEE BENT KINGSBURY, B.S.

A Thesis submitted to the Graduate School
in partial fulfillment of the requirements
for the Degree
Master of Arts

Major Subject: Speech

New Mexico State University
Las Cruces, New Mexico

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"The Effects of the Las Cruces, New Mexico, Bilingual Program on Selected Aspects of Spoken English," a thesis prepared by Ramona Lee Bent Kingsbury in partial fulfillment of the requirements for the degree, Master of Arts, has been approved and accepted by the following:

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Dedication of this thesis is given to my parents, Mr. and Mrs. Charles Bent. Very special thanks are extended to Mrs. David Burpee and the late Pearl S. Buck who have greatly influenced my life and educational goals.

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The purpose of this study was to ascertain through standardized tests if a public school bilingual educational program had an effect on spoken English proficiency of native Spanish speakers in Las Cruces, New Mexico.

The subjects were 34 fourth-grade children enrolled in the Sustained Primary Program for Bilingual Students in the Las Cruces Public School System.

The subjects were divided into two groups. Group I was taught their course content in both English and Spanish. Group II was taught in English only. The subjects were taken from the same cultural and socioeconomic background and individually tested in a quiet room.

The methods used to measure English-speaking proficiency were the Ammons Quick Picture Vocabulary Test and three subtests of the Illinois Test of Psycholinguistic Ability taken from the representational level. The subtests chosen were: Auditory Reception, Auditory Association, and Verbal Expression. A nonverbal intelligence test (the Columbia Mental Maturity Scale) was also administered.

Mean scores were computed for all tests for both groups and comparisons between groups were made. To determine the significance of difference between scores, t tests were conducted on all tests.

The intelligence test indicated that the two groups did not significantly differ. No significant differences were found between the two groups on English-speaking proficiency in auditory reception, auditory association, and verbal expression. Significant differences were found for the Ammons Quick Picture Vocabulary Test. English-speaking proficiency was found depressed for both groups when compared with norms for their chronological age.

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Chapter 1

INTRODUCTION

It is generally recognized that one of the most acute educational problems in the Southwest involves the proficiency of English of the Mexican-American child with a bilingual/bicultural background. In the American Southwest, Mexican-Americans have the highest estimated rate of attrition among the three major ethnic groups before high school graduation. The loss also begins earlier among Mexican-Americans. By the eighth grade 9% of them have already left school. At the time of high school graduation, only 60% of Mexican-Americans are still in school (U.S. Commission on Civil Rights, 1971).

The traditional approach to bilingualism has been to ignore the unique circumstances of children from Spanish-speaking homes and to assume that even with little or no experience in speaking English they would somehow learn as easily as their English-speaking classmates. Generally, however, it is considered that this has not happened.

It now appears that two separate but parallel purposes need to be pursued in regard to the problem of bilingualism. One is to help the Mexican-American student adjust to the "Anglo" culture. The other is to encourage in him a pride in his Spanish-speaking culture and Mexican origin.

In the Southwest, a cultural and linguistic gulf exists between Mexican-Americans and Anglo-Americans. "Unlike the immigrant from Europe," said John M. Sharp,

> the Mexican-American is by no means willing to abandon his ancient cultural and linguistic heritage, in which he takes--however inarticulately--traditional pride, to accept the cultural pattern common to native speakers of English in our country. His position may be compared to that of the Greeks in Sicily, who, though citizens of a Latin-speaking area, have maintained their languages and mores for some 25 centuries [NEA, 1973, p. 5].

Currently, for social reasons, concern in the United States centers on teaching English to children from minority groups who speak a foreign language. "The largest such groups speak Spanish or Navajo [Cazden, 1972, p. 176]."

A large portion of Mexican-American pupils enter school speaking very little English or with serious difficulties in using the language (U.S. Commission on Civil Rights, 1970). As a result of cultural and economic differences between the English-speaking and Spanish-speaking segments of the Mexican-American's community, many of the objects, social relationships, and cultural attitudes presented to him in his lessons, though perfectly familiar to an Anglo youngster, do not lie within the Mexican-American's home experience. Yet it appears that few schools have adequate language programs to meet these needs.

Ginsberg (1970) charged that compensatory education programs are usually based on wrong assumptions and evaluations and argued that poor children also need an environment which nourishes their abilities and allows their language to develop. However, according

to Cazden (1972), bilingual education is often only another name for new means to the old goals of teaching children to speak and read the predominant language as quickly as possible.

In the United States, through its influence on children, parents, and teachers, bilingual education may affect both attitudes and speech behavior toward language outside the classroom as well (Cazden, 1972). Language is far more than a means of communication: "It has become one of the principal means of thought, memory, introspection and problem solving and related to all 'other mental activities' [Travis, 1971, p. 1144]."

Any discussion of bilingual/bicultural education must begin with a review of language development and factors that can hinder proficiency.

Infants begin making disconnected sounds (a, n, etc.) at an early age. Usually by the age of one, a few complete words (mama, papa) will be used with meaning. Depending on (a) his native ability, (b) exposure to language, (c) opportunity, and (d) need to speak, the child will develop an active vocabulary as a tool to manipulate his world. Much depends on the combination of these factors. If any one of them is inadequate, a limited vocabulary can be expected. In situations where the child hears only minimal speech, that is, short phrases giving him directions, and he is not expected to correspond verbally, he will learn to obey silently.

Babies between the eighth and tenth months first evince some understanding and recognition of certain symbolic gestures, intonations, words, and phrase structures (Berry, 1969).

Many parents will insist that a child has a longer listening vocabulary than he actually uses himself. The quality and length of his utterances are affected by these four factors and some others. The educational level of those who surround him, the concepts that are discussed within his hearing, the availability of conversing adults from outside the family circle, the child's involvement with recordings, radio, and television all affect language development.

Emphasis on appropriate and effective language usage cannot be divorced from any attempt to prepare a child for a constructive, productive life. An individual belongs to a family, a culture, a history. Therefore, any attempt to nurture a child through language should take into account those aspects of civilization of which he is a part. Many educators have chosen to acknowledge the Spanish-speaking ability of Mexican-American students as a distinct asset and to build on it rather than to eradicate it.

Gagne (1968), who developed the system of learning hierarchies, distinguished between intellectual skills and verbalizable knowledge, and his research suggests that "a learner may acquire certain intellectual skills from a presentation that is disorganized when viewed as a sequence of verbalizable knowledge [Gagne, 1968, p. 4]." All oral language learning that takes place before the child goes to

school takes place on a nonsequenced whole-task basis (Cazden, 1972). In oral language the child learns relationships between meaning and some sounds.

Most children are exposed to multiple models in language in a bilingual community between home, community, and television. We need to understand how and why they choose one model to learn.

Review of the Literature

> The day is coming when more and more genuine bilingual education, for all who want it, regardless of income, mother tongue or language dominance, will be part of the variegated picture of American education. At that time, it will not be a mere euphemism for programs in English as a Second Language, which, though unquestionably essential, constitute only one part and one kind of dual language education. It will not be just a promissory note to the poor nor a left-handed contribution to increasingly vocal and organized (though still exploited and dispossessed) Hispanos and Indians. It will be available to my children and grandchildren and to yours, because it is too good to keep it from all the people (Fishman, 1970, p. 53).

The controversy of bilingual education has been disputed for many years as evidenced in the literature. Johnson (1938) administered the English Test of English Vocabulary to 500 Anglo and Spanish high school students at the end of one school year. He found that Spanish-American high school pupils labor with a definite vocabulary handicap compared with Anglo-Americans and with the norms for the test.

Tireman and Woods (1939) measured the aural and visual comprehension of English by Spanish-speaking children. They administered the Darrell-Sullivan Reading Capacity and Achievement Tests to 47 natively Spanish-speaking children in grades 5 through 8. The test,

according to the authors, measures aural comprehension of words and connected prose, as well as visual comprehension of the same types of materials. Results showed that this group of children understood written English better than they understood verbal English when it was spoken.

"Bilingualism" is a term commonly used but not understood by most people. Webster (1973) defines bilingual as "using or able to use two languages especially with the fluency characteristic of a native speaker (p. 79)." On a practical level, however, the "fluency of a native speaker" is not achieved by most people who use two languages (Singer, 1956).

The U.S. Office of Education (1970) has defined bilingual education as follows:

> Bilingual education is the use of two languages, one of which is English, as mediums of instruction for the same pupil population in a well-organized program which encompasses part or all of the curriculum and with the mother tongue. A complete program develops and maintains pride in both cultures (p. 1).

Canden (1972) further argued the need for more studies of natural second-language learning, both simultaneous and sequential, of English-speaking children learning other languages and of speakers of other languages learning English.

In modern society, man lives in close contact with his fellow human beings. Including speaking, writing, reading, and listening, man spends at least 70% of his waking hours communicating with others (Stevens, 1966).

Language is a primary means of instruction and control in our schools today. The children who are attuned to the verbal patterns are at an advantage. However, what happens to children whose language skills, preferences, or even mother tongue is different from that of the teacher?

> It is sad but true that the way the educational philosophy and concepts of our country have evolved, they have always tended to do away with and replace, any language system a minority group may have. To this day and age that is true in New Mexico. Educators still preach that the value system of our language system--Spanish--has little value, and it is of no benefit to speak this language.
>
> Conscientious efforts have been made by the public institutions of education to urge people to forget who they are. It is common knowledge that in many schools in the area, though native teachers may be teaching, punishment is administered because kids insist on speaking Spanish.
>
> You can imagine the kind of ambivalence that this creates in the child, at an early stage of his development. In effect, many of the problems the Spanish-speaking youth have, with regard to their heritage, are due to the fact they have been robbed of their birthright. They find themselves in a state of limbo, in a state of nowhere [Palcundo Valdez, 1967].

The child needs a bridge between the home and the school. In order to do this, the school must develop a positive self-image for the culturally different child (Penderson, 1966).

> For the Spanish-speaking children of the Southwest, language difficulties arise not necessarily from being bilingual but from their bilingual background. Language problems often accompany cultural difference and socio-economically deprived and culturally different minority groups in the form of a communication barrier when they are taken from their immediate environment [Ohriner, 1971, p. 1142].

Some studies have pointed out the fact that children who speak a language other than English natively have problems in the public

school system. Carrow (1957), in consideration of this problem, examined the relationship between bilingualism and the mastery of language. She described two groups of students in the third grade, one bilingual (exposed to Spanish and English in the home, but preferred English), and the other group English-speaking. Age, grade, socioeconomic status, and intelligence were similar for both groups. The language skills tested were silent reading (vocabulary and comprehension), oral reading (accuracy, comprehension, and rate), hearing vocabulary, spelling, and arithmetic. The oral language skills tested were articulation, verbal output as measured by the total number of words in a unit of time, the extent of a speaking vocabulary as measured by the number of different words used, length of clauses, degree of subordination, complexity of sentence structure, and number and type of grammatical errors. The results showed a significant difference between the language groups in favor of the monolingual group, in tests of oral reading accuracy, reading comprehension, and hearing vocabulary; the bilingual group made more and different types of errors than the monolingual group (Carrow, 1957). The deficiencies of language in the children in this study could have been related to incorrect and/or confused language patterns in the home and a scanty language experience background rather than to the learning of two languages.

In a later study, Carrow (1972) compared the auditory comprehension of English of 30 monolingual and 30 bilingual children, ages 3 years 10 months to 5 years 9 months, from low socioeconomic

areas in Houston, Texas. The children varied widely linguistically in the extent to which they understood the two languages. The test instrument was a revised version of the Auditory Test for Language Comprehension which permits the assessment of oral language comprehension of English and Spanish without requiring language expression. The monolingual children obtained significantly higher mean scores than did the bilingual children in the linguistic areas of nouns, pronouns, and plurality of nouns. Carrow pointed out that comprehension of English does not seem to indicate complete comprehension in all linguistic areas.

"Bilingualism does not exist in a vacuum; it exists in the context of ethnic, religious, and cultural differences [Fishman, 1972, p. 25]." Therefore, one also must support biculturalism, which requires an awareness of one's heritage and freedom to express this identity in a natural and uninhibited manner.

Although the "effect of exposing children to a second language at various ages has never been properly tested [Weinreich, 1968, p. 76]," it appears that the age of learning is not as important as the quality of the learning opportunities. Most authors agree with Carroll (1964) that the situations in which two languages are learned should be kept as distinct as possible (Arsenian, 1945; Lambert, Havelka, & Crosby, 1961; Smith, 1935; Weinreich, 1968, p. 74).

Lour (1964) compared the performance of Spanish-American and "other" high school students from one school on standardized tests

from 1958 to 1963. The mean percentile scores for the Spanish-American students were below the mean percentile scores of the "other" students in comparison. The greatest difference was found on verbal tests. Only the superior bilingual students achieved verbal scores comparable to the scores of the monolingual students, according to Lear (1964).

In the fiscal year 1969, the U.S. Department of Health, Education and Welfare (U.S. Commission on Civil Rights, 1971) committed $7.5 million to bilingual education programs. Sixty-five of the 76 funded programs were for the Spanish-speaking and 51 of these were in the Southwest.

The figures for the fiscal year 1970 showed a trend toward more bilingual programs, not only for the Spanish-speaking, but for other language groups as well. Total funds almost tripled, showing an increase of $13.5 million, including $7.9 million for new money for programs for the Spanish-speaking in the five Southwestern states. However, almost all bilingual education today is offered in small scattered pilot programs, such as the one in Las Cruces, New Mexico (U.S. Commission on Civil Rights, 1972, p. 22).

Statement of the Problem

In order to deal with the language and academic problem, the Las Cruces Public School System presented a proposal under the Elementary and Secondary Education Act (ESEA), in 1965, which resulted in the Sustained Primary Program for Bilingual Students. Under Title III of ESEA, the program initiated bilingual instruction

in 1967 through 1970 for kindergarten through third grade, and, under Title III of the Bilingual Education Act, expanded the instruction for kindergarten through sixth grade from 1969 to 1973 (Keith, 1970).

The New Mexico State Board of Education (1967) listed the following objectives for bilingual education:

1. To develop the child's capacity to think rationally, make sensible decisions, and deal effectively with his environment.
2. To help the child understand his own abilities and limitations and achieve a positive self-concept of self.
3. To foster the child's individual talents and creative abilities.
4. To achieve maximum development of the fundamental skills in each student.
5. To achieve maximum development of ability and desire in each individual to make the greatest possible contribution to his own society through responsible participation in, and benefit from, the great privileges of American citizenship.
6. In order to accomplish objectives 1-5, the primary objectives of school programs for children whose mother tongue is not English shall be achievement of proficiency in the English language.

In the summary of the test results of the "Evaluation of the Fourth Year (1971-1972) of the Sustained Program for Bilingual Students in the Las Cruces, New Mexico, Public School System" (Muller, 1972), the Comprehensive Tests of Basic Skills were used to measure academic achievement. The areas tested were reading vocabulary, reading comprehension, language mechanics, language expression, language spelling, arithmetic computation, arithmetic concepts, and arithmetic applications. Information revealed that the bilingual program students (course content taught in both English and Spanish)

at the second grade level showed significantly lower achievement scores in all areas of the Comprehensive Tests of Basic Skills. However, the bilingual students seemed to show a steady gain in relation to the control students (course content taught in English) in the third and fourth grades, and by the end of the fifth grade there were no differences between the two groups.

In the "Evaluation of the Fifth Year (1972-1973) of the Sustained Primary Program for Bilingual Students in the Las Cruces, New Mexico, Public School System" (Muller, 1973), the following was found:

> In the areas of language spontaneity and feelings of self-worth the bilingual project has not produced the student changes anticipated. While it must be recognized that the instruments used in the evaluation of these objectives are in the early stages of development, the overall pattern of results suggests that the project staff needs to closely examine curriculum and methodologies as they relate to these objectives [p. 43].

The purpose of this study is to determine the effects of a bilingual educational program (Sustained Primary Program for Bilingual Students in Las Cruces, New Mexico) on selected aspects of English proficiency of bilingual students.

Chapter 2

DESIGN OF THE STUDY, MATERIALS, AND PROCEDURES

Selection of Subjects

The subjects for this study were 34 fourth-grade students attending Washington Elementary School in Las Cruces, New Mexico. All subjects came from approximately the same ethnic and socio-economic background. These subjects were chosen as they comprised the first group which had been in the Sustained Bilingual Program from the beginning. The majority of the students' family income was $3,000 or less. Most of the subjects had Spanish surnames and 99% spoke Spanish in the home. Subjects ranged in age from 9 years 3 months to 11 years 10 months.

Permission slips in both Spanish and English were sent home to the parents and/or guardians of the subjects. It is interesting to note that approximately 95% of the parents signed the permission slip that was in Spanish. See the Appendix for copies of the permission slips.

The subjects were divided into two groups, according to the educational programs in which they were enrolled. Under the program description of the pilot study in Las Cruces, the groups were divided as follows:

> The bilingual instruction group receives instruction in both English and Spanish languages in all subject areas. The curriculum content is in both English and Spanish languages in all subject areas. The curriculum is bicultural and language-arts oriented. A bilingual

> aide provides individualized assistance to students in either language as the need arises.
>
> The control group receives instruction in English only. Teachers utilize a basal reader instructional approach. Instruction follows the prescribed curriculum of the Las Cruces schools. Control teachers may have the same service of a student teacher, student co-op, teacher corps or migrant aide when available. Children in the bilingual group have one year of kindergarten experience. Those in the control group may or may not have eight weeks of headstart experience.

Henceforth, the groups will be referred to as Group I (instruction in both English and Spanish) and Group II (instruction in English only).

Group I consisted of 20 subjects with a regular classroom teacher and a teacher aide for the school year. Both the teacher and aide were bilingual. Three of the students were excluded from the group due to their lack of English. A total of 17 subjects was therefore assigned to Group I.

Group II originally consisted of 27 subjects with a regular classroom teacher and a student from Teacher Corps assisting the first half of the school year. Permission, however, was obtained for only 17 subjects.

Materials

The battery of standardized tests employed in this study in order to measure various aspects of oral language proficiency was as follows:

The Columbia Mental Maturity Scale (Burgemeister, Blum, & Lorge, 1954) is an individually administered intelligence test designed to yield an estimate of the mental ability of children

in the age range from 3 to 12 years. This test is unique in that it requires no verbal response and there is no time limit on the subject. This is advantageous for a bilingual child as verbalization is not necessary. The test consists of 100 items, each printed on a card 6 by 19 inches. Each item contains a series of three to five drawings. The cards are various colors, and objects depicted on the cards are generally within the range of experience of most children. The intellectual discrimination required is recognition of the picture which does not belong with the others. Bases for discrimination range from the perception of gross differences in color or form of recognition to very subtle relations in pairs of pictures which the subject excludes from a series of five drawings. The items are arranged in order of difficulty.

The Ammons Quick Picture Vocabulary Test (Ammons & Ammons, 1948) was used both as an intelligence and vocabulary comprehension measure. The test consists of three single forms, each containing four black and white cartoon-like drawings. Each form has 50 stimulus words of increasing difficulty. As the tester speaks each word, the subject indicates by pointing to the drawing which best fits the given word. The tester tells the subject, "I'm going to show you some pictures and say some words. When I say a word, show me which picture best fits it." "Show me _____." This test gives mental age norms for ages 1.5 through 19.0.

The third measurement taken consisted of three Illinois Test of Psycholinguistic Ability (ITPA) subtests from the representational

level. This particular level was chosen because, according to Berry (1969), it is the most highly organized to mediate the significance or meaning of linguistic symbols. The three subtests chosen were Auditory Reception, Auditory Association, and Verbal Expression. To understand the reasoning for these particular subtests, one must understand their function.

Auditory Reception (Auditory Decoding) assesses the subject's ability to comprehend meaning from verbally presented material; and, as language is developed, better codes are developed, making possible more elaborate categories for classifying and retaining information. The test contains 50 short, direct questions that are printed in the manual. Typical items are "Do dogs eat?", "Do dials yawn?", and "Do carpenters kneel?" Since the receptive rather than the expressive process is sampled, responses are kept at the simple level of a "yes" or "no" or even a nod or shake of the head.

Auditory Association measures the subject's ability to relate concepts orally. Requirements of the auditory receptive process and the vocal expressive process are minimal, while the organizing process of manipulating linguistic symbols in a meaningful way is tested by verbal analogies of increasing difficulty. There are 42 orally presented analogies such as "I cut with a saw; I pound with a _____." "A dog has hair; a fish has _____." The subject is required to say the missing word. Such analogies are considered to be a sophisticated level of language development.

Verbal Expression (Vocal Encoding) was the last subtest extracted from the ITPA. This test measures the ability of a subject to express his own concepts orally. A concept is any relevant, discrete, and approximately factual term expressing a characteristic, function, or relationship of the object. The subject is shown four familiar objects, one at a time (a ball, a block, an envelope, and a button) and is asked, "Tell me all about this."

Procedures

The five standardized tests previously mentioned were individually administered in a quiet room to each subject in Group I and Group II. The specifics of these procedures were as follows:

In the Columbia Mental Maturity Scale, the tester begins with Card 31 if the subject has a mental age of 7 years or more. If the subject fails 31, 32, 33, the tester then starts with Card 1. Thus, if the subject succeeds, the tester gives credit for the earlier items. Testing stops if the subject fails 12 in any sequence of 16 cards. Raw scores were converted to an IQ by dividing the mental age in months by the chronological age in months. The test was used to compare the intelligence of the two groups. Administration time was approximately 20 minutes per subject.

Administration of the Ammons Quick Picture Vocabulary Test began at the student's "most likely" ability level on each of the three forms. If the first word was passed, more difficult words

were presented until six were failed consecutively. Each form was administered separately with the scores added together. A table was used to convert the score to a mental age and intelligence quotient. The two groups' IQ's were compared in order to ascertain if their vocabulary was significantly different due to the treatments.

The Auditory Reception subtest was administered by a graduate student in speech pathology trained in Illinois Test of Psycholinguistic Ability presentation. In scoring, the raw score was converted to a psycholinguistic age (PLA) which would normally be expected to correspond to the subject's chronological age. The PLA scores were compared between the two groups.

In the Auditory-Vocal Association subtest, the technique used was sentence completion, presenting one statement followed by an analogous statement. The subject was allowed to complete the second statement appropriately. The means of the group scores were compared.

The Verbal Expression subtest scores provided specific examples of credible and noncredible responses within 10 categories in answering the question, "Tell me all about this" (a ball, a block, an envelope, and a button). Scoring included (a) label and classification, (b) color, (c) shape, (d) composition, (e) function or action, (f) major parts, (g) numerosity, (h) other physical elements, (i) composition, and (j) person, place, or thing associated with object. The groups' mean scores were compared for a difference or a possible trend.

The three subtests of the ITPA took approximately 20 minutes per subject to administer.

A *t* test was utilized for each test for Group I and Group II to compare statistically the means of the two populations.

F tests and Pearson Product Correlation were utilized to assure the validity of the *t* test for the two groups.

Chapter 3

RESULTS AND DISCUSSION

The first test administered to the two groups was the Columbia Mental Maturity Scale. Table 1 shows the mean IQ scores for all the subjects, male and female, which total 17 in each group. The mean for Group I (taught in English and Spanish) was 112 and the mean for Group II (taught in English only) was 106. The IQ range for Group I was 84 to 153. The IQ range for Group II was 80 to 131. A t score of .92 revealed no significant difference at the .05 level of significance. The F test was run and reinforced statistically that both groups were essentially equal and the population the same (Table 1).

The means for the Ammons Quick Picture Vocabulary Test scores for both groups are shown in Table 2. The Ammons Quick Picture Vocabulary Test screens verbal perception. The mean IQ score for Group I was 70 and the mean IQ score for Group II was 89. The IQ range for Group I on the Ammons was 21 to 127. The IQ range for Group II was 51 to 161. A t score of 2.04 revealed a significant difference at the .05 level of significance. This difference could possibly be attributed to several factors. The words are presented from an easy to hard sequence; however, problems were encountered on easy words such as sheet, whistle, etc. It is generally accepted that words have connotations, aspects of meaning idiosyncratic to individual persons because they reflect individual experience (see

TABLE 1

Results of Administration of the Columbia Mental Maturity Scale

Item	Group I	Group II
Number of subjects	17	17
Mean	111.58	105.77
Range	84-153	80-131
Standard deviation	21.12	15.49
Variance	446.132	239.94
Mean difference		5.824
Degrees of freedom		32
Computed t		.9167
Significance level		1.69
> .05 level		None

TABLE 2

Results of Administration of the Ammons Quick Picture Vocabulary Test

Item	Group I	Group II
Number of subjects	17	17
Mean	69.64	89
Range	21-127	51-161
Standard deviation	26.91	28.40
Variance	724.37	806.75
Mean difference		-19.353
Degrees of freedom		32
Computed t		2.039
Significance level		1.697
> .05 level		Yes

Table 2). Group I included four older boys, age 11 and older, with restricted vocabularies due to their lack of English proficiency. Thus, because of their chronological ages and low test scores, it is probable that these subjects tended to skew the scores. Later, the scores were recomputed, eliminating these subjects; this did change the results.

The three subtests of the Illinois Test of Psycholinguistic Ability (ITPA) were given to both groups. In order to clarify their significance, they will be discussed separately.

The Auditory Reception subtest was administered to both groups and their scores were converted to psycholinguistic age (PLA). However, it was discovered that in Group I two of the subjects could not attain a basal score due to their lack of English and therefore were eliminated. Table 3 shows the mean for Group I with 15 subjects was 6 years 5 months (PLA). The range for this group was 3 years 1 month to 8 years 7 months.

The mean for Group II with all subjects was 7 years 5 months. Their range was 4 years 1 month to 10 years 2 months. A t score of 1.69 revealed no significant difference at the .05 level of significance. However, there was a significant difference at the .1 level of significance, which indicates a tendency of Group II to perform better in this subtest than Group I (Table 3).

The Auditory Association subtest was administered to both groups with the number of subjects the same as in the Auditory Reception subtest and the scoring computed to PLA. The mean for Group I

TABLE 3

Results of Administration of the Auditory Reception Subtest

Item	Group I	Group II
Number of subjects	15	17
Mean	6.46	7.5
Range	3.1-8.7	4.1-10.2
Standard deviation	1.67	1.85
Variance	2.80	3.45
Mean difference		-1.06
Degrees of freedom		30
Computed t		1.690
Significance level		1.697
> .05 level		None
> .1 level		Yes

(shown in Table 4) was 7 years 0 months. The range of this group was 4 years 11 months to 9 years 9 months.

Group II showed a mean of 7 years 6 months. The range was 4 years 5 months to 9 years 9 months. A t score of 1.15 revealed no significant difference at the .05 level of significance.

TABLE 4

Results of Administration of the Auditory Association Subtest

Item	Group I	Group II
Number of subjects	15	17
Mean	7.0	7.6
Range	4.11-9.9	4.5-9.9
Standard deviation	1.35	1.56
Variance	1.83	2.43
Mean difference		-.599
Degrees of freedom		30
Computed t		1.1518
Significance level		1.697
> .05 level		None

The Verbal Expression subtest was given to both groups. Group I showed a mean of 7 years 6 months. The range for this group was 4 years 8 months to 10 years 5 months (Table 5).

Group II showed a mean of 7 years 8 months with a range of 4 years 1 month to 10 years 2 months. A t score of .278 showed no significant difference at the .05 level of significance (see Table 5).

TABLE 5

Results of Administration of the Verbal Expression Subtest

Item	Group I	Group II
Number of subjects	15	17
Mean	7.6	7.8
Range	4.8-10.5	4.1-10.2
Standard deviation	2.01	2.12
Variance	4.04	4.48
Mean difference		-0.20
Degrees of freedom		30
Computed t		.278
Significance level		1.697
> .05 level		None

The above data revealed no significant difference in the two groups except in the Ammons Quick Picture Vocabulary Test. However, there were two variables that appeared to need further analysis.

Four of the above subjects had been exposed to the treatment program for 2 years or less. They varied from 2 years in the program to 2 months. Scores for two of these subjects could not be obtained for the ITPA subtests for the above data.

It was also noted that three of the four subjects were well over 11 years of age. This was a variable not previously taken into consideration. Therefore, the data were run again, eliminating these four subjects from Group I. The first group then consisted of 13 subjects and Group II consisted of the original 17 subjects.

A *t* test was again utilized on all of the five tests administered. The first scores analyzed were for the Columbia Mental Maturity Scale. The *t* test proved invalid, however, after running the *F* test. Results showed a difference in population which could have been due to the test itself or the population tested.

The mean for the Ammons Quick Picture Vocabulary Test scores for Group I was 76 and the mean IQ score for Group II was 80. The range for Group I was 49 to 127. The range of Group II was 51 to 161. A *t* score of 1.26 revealed no significant difference at the .05 level of significance, a finding in contradiction to the data previously analyzed. This may have been due to the fact that the subjects eliminated were new to the program, with little English and older than the average student in the class.

The ITPA subtests were evaluated also. However, in Group I instead of two subjects being eliminated, there were four. The Auditory Reception subtest mean for Group I was a PLA of 6 years 7 months. The mean PLA for Group II was 7 years 5 months. The range for Group I was 3 years 1 month to 8 years 7 months. The range for Group II was 4 years 1 month to 10 years 2 months. A *t* score of 1.23 revealed no significant difference at the .05 level of significance.

The Auditory Association subtest showed a mean PLA of 7 years 3 months. The *t* score was not valid due to a difference in population as indicated by the *F* test.

The Verbal Expression subtest revealed the mean PLA for Group I to be 7 years 9 months. The mean PLA for Group II was 7 years 8 months. The range for Group I was 4 years 8 months to 10 years 2 months. The range for Group II was 4 years 1 month to 10 years 2 months. A *t* score of .09 revealed no significant difference at the .05 level of significance.

Chapter 4

SUMMARY AND CONCLUSIONS

The purpose of this study was to ascertain if the bilingual program in Las Cruces, New Mexico, had an effect on the English language proficiency of native Spanish speakers as measured by standardized tests.

Statistical analysis on the five tests utilized showed no significant difference except for the Ammons Quick Picture Vocabulary Test. Therefore, it was concluded that the children in both groups were equal in regard to the aspects of language tested.

However, scores of both groups were indicative that the English language was depressed for their chronological ages. In some cases the gap was quite large. There is a possibility that the curriculum and methods of teaching need further investigation. Also, controls on the groups could be tighter to ascertain where improvement could be utilized. The depressed nature of language skills was further verified by consulting the subjects' school records for the results of the California Achievement Test given previously by the school. These scores again showed depressed language skills throughout in that the pattern was repeated in lower achievement scores for language skill areas. The two groups did not vary greatly. The importance of these findings is reinforced by these data.

The bilingual/bicultural program may be beneficial by giving the native Spanish speaker pride in his language and culture. Bilingualism and biculturalism may appear acceptable as culturally complementary in the bilingual subject. It could allow the child the bridge between the home and classroom while improving his self-concept. The opportunity of having the course content in both languages gives the child the facility for thinking in two languages and handling both languages in appropriate situations. It may alleviate the dropout rate of the Spanish-speaking child. This is an area that needs further study. Educators could continue to use this method of teaching. The program could also incorporate children from primarily English-speaking backgrounds. It must be emphasized, however, that the children in the pilot study of Las Cruces, New Mexico, are definitely depressed in the area of language. This conclusion has been substantiated in the "Evaluation of the Fifth Year (1972-1973) of the Sustained Primary Program for Bilingual Students in the Las Cruces, New Mexico, Public School System" (Muller, 1973). In this evaluation, Muller (1973) stated:

> In light of the great drop in performance of tests during the third year, it would seem appropriate for the project staff to carefully examine the curriculum for possible weaknesses or inadequacies.

Therefore, this task could well be within the realm of school speech therapists in regard to language ability to analyze and set up remedial programs for deficiencies in various aspects of language skills. Many of us in communicative disorders agree that "language

disorders represent an area that, like outer space, seems to have no boundaries; they have infinite parameters [Berry, 1969, p. 2]."

It must be pointed out, however, that language depression cannot be totally attributed to bilingualism. Factors such as culture, education, and socioeconomic status also play a role.

Finally, it should be recognized that standardized tests have been utilized mostly in application to Anglo students. Thus, the need for tests and norms for bilingual students is evident.

Future studies experimenting with small-scale alternative approaches to language policy in bilingual programs could prove beneficial.

The child may function well within his speech community, but the problem arises when he enters the middle-class culture. The speech pathologist could augment language instruction through programs geared to expressing abstractions and logical, spatial, and temporal relationships. Programs could also incorporate drills for patterning using dialogues and chaining.

Articulation may be worked on. However, emphasis on correct speech may be questionable if there is no improvement in language behavior. A speech pathologist could work with dialect remediation as we have knowledge of what deviant aspects of the speech code have the most negative effects on the listener and how these deviances are reflected in language development.

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APPENDIX

PERMISSION SLIPS USED IN STUDY

PERMISSION SLIP IN SPANISH

Estimado Padre de Familia:

Estoy haciendo un estudio en terapia del lenguaje para obtener mi maestría (Master's Degree) en la Universidad del Estado de Nuevo Mexico. Estoy estudiando el desarrollo del lenguaje en ninos bilingües y monolingües. Su niño está en el grupo de donde escogeremos a los que participarán en al estudio.

Me gustaría tener su permiso para darle a su niño una serie de pruebas en la escuela. Estas pruebas incluirán una prueba de vocabulario, y otras pruebas de habilidad para el lenguaje general. Todo la información que obtengamos será confidencial. Si usted nos da su aprobación, por favor firme este papel y regreselo a la maestra.

Atentamente,

/s/

Ramona Kingsbury

Estoy de acuerdo en que le hagan a mi hijo/hija las pruebas descritas arriba.

_____

Nombre del niño/niña: _____

Fecha de nacimiento: _____

PERMISSION SLIP IN ENGLISH

Dear Parent:

I am doing a study to earn my Master's degree from NMSU in speech therapy. I am studying language development in monolingual and bilingual children. Your child is in the group from which the children to participate in the study will be chosen.

I would like your permission to give your child a series of tests at school. These will include a vocabulary test and tests of general language ability. All information collected will be kept confidential. If you approve, please sign this paper below and return it to his or her teacher.

Sincerely,

/s/

Ramona Kingsbury

I agree to let my child receive the language tests described above.

_____ _____

Child's name: _____

Birthdate: _____